

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Gribbin
Appl. No. :
Filed : April 1, 2004
Title : ROTOR FOR A COMBINE HARVESTER

Grp./A.U. :
Examiner :

Docket No.: 14663

Honorable Commissioner of Patents
Alexandria, VA 22313-1450

Sir:

PTO CUSTOMER NO. 000293
CLAIM OF PRIORITY

We file herewith a certified South African patent application, bearing application number 2003/6227, which was filed on August 12, 2003, and on which the above U.S. application was based. We ask that this U.S. application be awarded priority rights in accordance with Section 119 of Title 35, Patents, (Public Law 593).

Respectfully submitted,

DOWELL & DOWELL, P.C.

By 

Ralph A. Dowell, Reg. No. 26,868

Date: April 1, 2004

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Sertifikaat



Certificate

PATENT KANTOOR
DEPARTEMENT VAN HANDEL
EN NYWERHEID

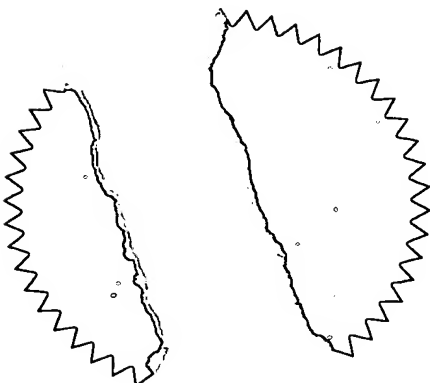
PATENT OFFICE
DEPARTMENT OF TRADE AND
INDUSTRY

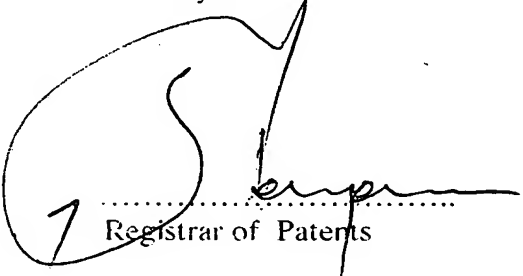
Hiermee word gesertifiseer dat
This is to certify that

the documents attached hereto are true copies of the Forms
P2, P6, provisional specification and drawing of South African Patent
Application No. 2003/6227 in the name of Gribbin, Stanley James

Filed : 12 August 2003
Entitled : Rotor for a Combine
Harvester

Gieteken te **PRETORIA** in die Republiek van Suid-Afrika, hierdie 29th dag van March 2004
Signed at in the Republic of South Africa, this day of




Registrar of Patents

REPUBLIC OF SOUTH AFRICA		REGISTER OF PATENTS		PATENTS ACT, 1978	
OFFICIAL APPLICATION		LODGING DATE: PROVISIONAL		ACCEPTANCE DATE	
21	01. 2003/6227	22	12 AUGUST 2003	47	
INTERNATIONAL CLASSIFICATION		LODGING DATE: COMPLETE		GRANTED DATE	
51		23			
FULL NAME(S) OF APPLICANT(S)/PATENTEE(S)					
71	GRIBBIN, STANLEY JAMES				
APPLICANTS SUBSTITUTED:				DATE REGISTERED	
71					
ASSIGNEE(S)					
71					DATE REGISTERED
FULL NAME(S) OF INVENTOR(S)					
72	GRIBBIN, STANLEY JAMES				
PRIORITY CLAIMED		COUNTRY		NUMBER	
N.B. Use International abbreviation for country (see Schedule 4)		33	NIL	31	NIL
TITLE OF INVENTION		DATE			
54	ROTOR FOR A COMBINE HARVESTER				
ADDRESS OF APPLICANT(S)/PATENTEE(S)					
276 STATION ROAD, BETHAL, 2310, NORTHERN PROVINCE, SOUTH AFRICA					
ADDRESS FOR SERVICE				S & F REF	
74	SPOOR & FISHER, SANDTON			PA135772/P	
PATENT OF ADDITION NO.			DATE OF ANY CHANGE		
61					
FRESH APPLICATION BASED ON			DATE OF ANY CHANGE		

APPLICATION FOR A PATENTAND ACKNOWLEDGEMENT OF RECEIPT
(Section 30 (1) - Regulation 22)

R 0060.00

HASR 711

The granting of a patent is hereby requested by the undermentioned applicant on the basis of the present application filed in duplicate

OFFICIAL APPLICATION NO.

21 01 2003/5227

PA135772/P

FULL NAME(S) OF APPLICANT(S)

71 GRIBBIN, STANLEY JAMES

ADDRESS(ES) OF APPLICANT(S)

276 STATION ROAD, BETHAL, 2310, NORTHERN PROVINCE, SOUTH AFRICA

TITLE OF INVENTION

54 ROTOR FOR A COMBINE HARVESTER

THE APPLICANT CLAIMS PRIORITY AS SET OUT ON THE ACCOMPANYING FORM P.2. THE EARLIEST PRIORITY CLAIM IS:

COUNTRY: NIL NUMBER: NIL DATE: NIL

THIS APPLICATION IS FOR A PATENT OF ADDITION TO PATENT APPLICATION NO.

21 01

THIS APPLICATION IS A FRESH APPLICATION IN TERMS OF SECTION 37 AND IS BASED ON APPLICATION NO.

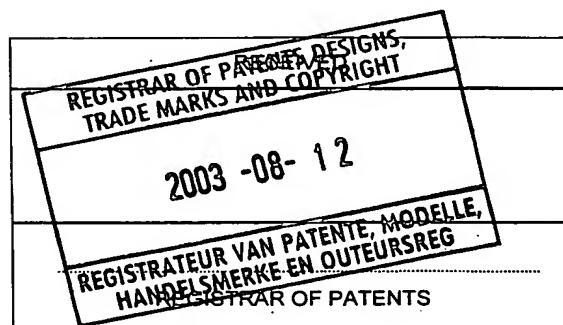
21 01

THIS APPLICATION IS ACCOMPANIED BY:

- ☒ 1. A single copy of a provisional specification of 5 pages.
- ☒ 2. Drawings of 1 sheet.
- ☐ 3. Publication particulars and abstract (Form P.8 in duplicate).
- ☐ 4. A copy of Figure of the drawings (if any) for the abstract.
- ☐ 5. Assignment of invention.
- ☐ 6. Certified priority document.
- ☐ 7. Translation of the priority document.
- ☐ 8. Assignment of priority rights.
- ☐ 9. A copy of the Form P.2 and the specification of S.A. Patent Application No.
- ☐ 10. Declaration and power of attorney on Form P.3.
- ☐ 11. Request for ante-dating on Form P.4.
- ☐ 12. Request for classification on Form P.9.
- ☒ 13. Form P.2 in duplicate.
- ☐ 14. Other.

74 ADDRESS FOR SERVICE: SPOOR & FISHER, SANDTON

Dated: 12 August 2003


SPOOR & FISHER
PATENT ATTORNEYS FOR THE APPLICANT(S)

REPUBLIC OF SOUTH AFRICA
PATENTS ACT, 1978

PROVISIONAL SPECIFICATION

(Section 30(1) – Regulation 27)

OFFICIAL APPLICATION NO.

LODGING DATE

21	01	0	2003/6227
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22	12 AUGUST 2003
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FULL NAMES OF APPLICANTS

71	GRIBBIN, STANLEY JAMES
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FULL NAMES OF INVENTORS

72	GRIBBIN, STANLEY JAMES
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TITLE OF INVENTION

54	ROTOR FOR A COMBINE HARVESTER
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ROTOR FOR A COMBINE HARVESTER

BACKGROUND OF THE INVENTION

THIS invention relates to a rotor for a combine harvester.

Combine harvesters are used to reap and thresh a grain crop in order to remove the grain from the ears of the grain crop. Typical rotors used in these combine harvesters are fitted with a plurality of thresher elements for threshing the crop material as the material passes through the harvester. Significantly, however, these thresher elements extend along the entire length of the rotor, which has been found to be overly aggressive when threshing the crop material, thus tending to damage the grain itself.

It would therefore be desirable to provide a rotor for a combine harvester that addresses the abovementioned problem.

SUMMARY OF THE INVENTION

According to the invention there is provided a rotor for a combine harvester, the rotor comprising:

a front threshing portion to which a plurality of thresher elements are fitted for threshing crop material entering the combine harvester; and

a rear, helical portion for driving the threshed material rearwardly through the combine harvester,

the rotor being housed, and arranged to rotate, within a cylindrical housing defined within the combine harvester, so that as the crop material passes between the rotor and the housing it gets threshed.

Conveniently, an impeller blade is fitted to the front of the rotor for facilitating the entry of the crop material into the cylindrical housing.

Preferably, a plurality of pins are attached to the helical portion of the rotor to drive the threshed material rearwardly through the combine harvester.

Typically, the length of the front threshing portion is approximately 1.143 m, and the length of the rear helical portion is approximately 1.114 m.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 shows a partially cross-sectional side view of a conventional combine harvester fitted with a rotor according to the present invention; and

Figure 2 shows a detailed perspective view of the rotor of the present invention.

DESCRIPTION OF A PREFERRED EMBODIMENT

Referring to the figures, a rotor 10 is shown fitted within a conventional combine harvester 12. The combine harvester 12 comprises a front, reaping arrangement 14 for cutting and collecting grain crop material as the harvester 12 is being driven through a crop field.

A feeder arrangement 16 is located behind the reaping arrangement 14 for feeding the cut crop material to a threshing arrangement 18 within the harvester 12. The threshing arrangement 18 comprises the rotor 10, which is arranged to rotate within a cylindrical housing 20 so that as the crop material passes between the rotor 10 and the housing 20 it gets threshed in order to remove the grain from the ears of the grain crop.

Significantly, the rotor 10 comprises a front portion 22, to which a plurality of thresher elements 24 are fitted for threshing the crop material, and a rear, helical portion 26 for driving the threshed material rearwardly through the housing 20.

An impeller blade 28 is fitted to the front of the rotor 10 for facilitating the entry of the crop material into the cylindrical housing 20.

Preferably, a plurality of pins 30 are attached to the helical portion 26 of the rotor 10 to drive the threshed material rearwardly through the combine harvester 12.

The length of the front threshing portion 22 is approximately 1.143 m, and the length of the rear helical portion 26 is approximately 1.114 m.

The primary advantage of the present invention is that the thresher elements only extend over a portion of the length of the rotor, with the remaining portion simply taking the form of a helical arrangement for pushing the threshed crop material towards the rear of the harvester.

As indicated above, a plurality of pins are attached to the helical portion to drive the threshed material rearwardly through the combine harvester.

DATED THIS 12TH DAY OF AUGUST 2003

A handwritten signature in black ink, appearing to be "S. Fisher", written over the printed name "SPOOR & FISHER".

SPOOR & FISHER

APPLICANT'S PATENT ATTORNEYS

2003/6227

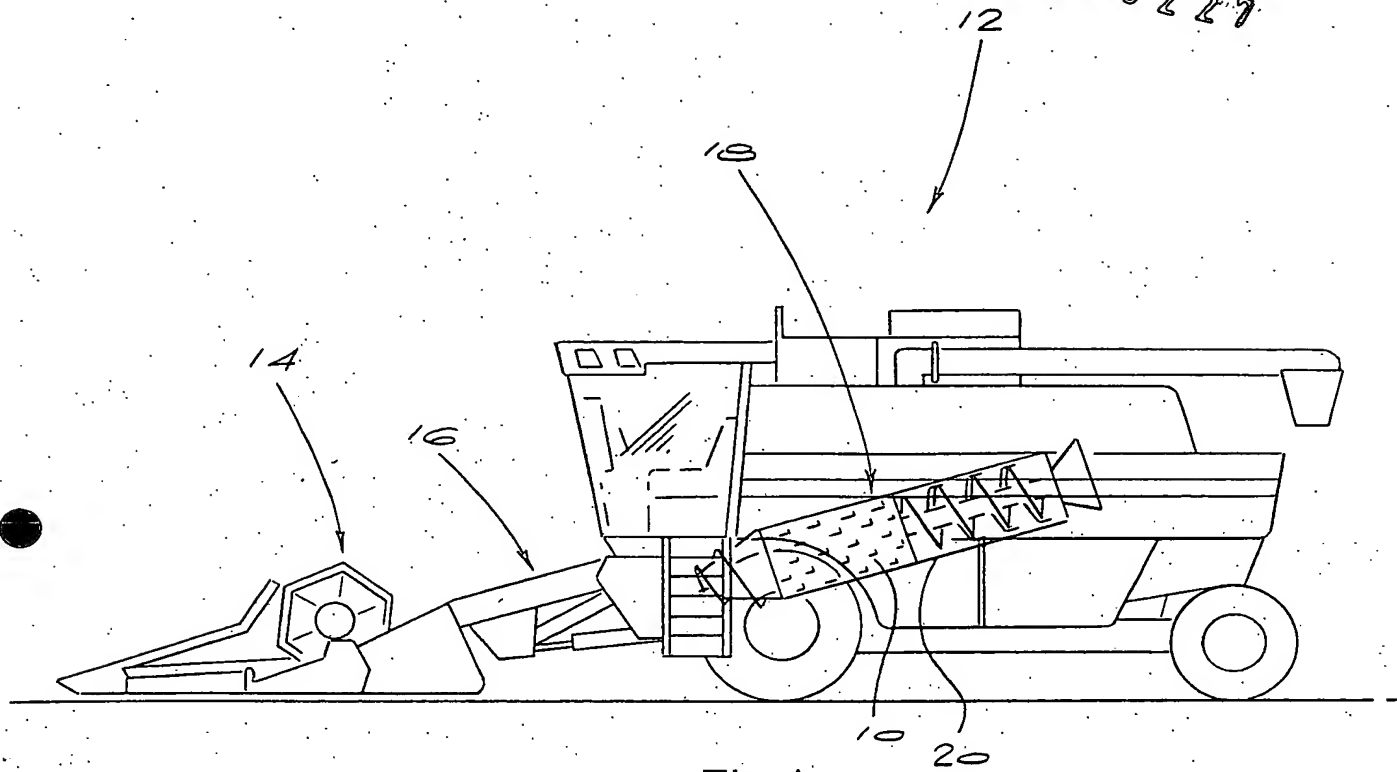


Fig.1

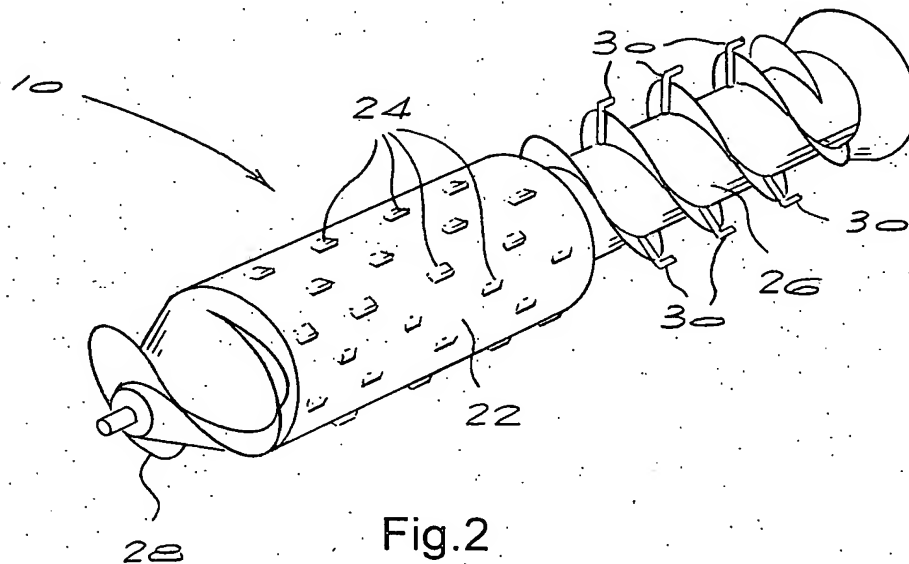


Fig.2